

IN THE ABSTRACT

Please delete the present abstract in its entirety, and replace it with the following:

There is provided a substrate material for an optical component for X-rays of wavelength λ_R . The substrate includes (a) a glass phase made of amorphous material having a positive coefficient of thermal expansion, and (b) a crystal phase including microcrystallites having a negative coefficient of thermal expansion and a mean size of less than about $4 \lambda_R$. The substrate material has a stoichiometric ratio of the crystal phase to the glass phase such that a coefficient of thermal expansion of the substrate material is less than about $5 \times 10^{-6} \text{ K}^{-1}$ in a temperature range of about 20°C to 100°C . The substrate material, following a surface treatment, has a high spatial frequency roughness (HSFR) of less than about $\lambda_R/30$ rms.